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ABSTRACT

The development of a new scheme for classifying the more than 7,000 documents on reading in the ERIC/CRIER data collection is described. An original scheme, developed in the early days of the clearinghouse, provided a means for listing documents in any of 45 broad subject categories in the field of reading and for identification by grade level. The system was found to be inadequate in that it did not permit sufficient precision for effective retrieval. The newly developed classification scheme proposes 27 classes into which documents can be divided. Each of these uses a numerical schedule which includes subclasses and provides means of adding more as needed. Further classification by grade level, source of material, type of material, and date of publication is also provided through a faceting technique. To facilitate use of the classification scheme, an index was developed which alphabetically lists terms included in the scheme. Testing of the scheme by ERIC/CRIER personnel was carried out on a 200-document sample, and comparisons were made of their notations. Overall agreement of better than a designated standard of 60 percent was determined for 77 percent of the documents, with higher agreement noted in individual parts of the notation. Illustrations of aspects of the scheme are included. (MS)

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"The Development of a Classification Scheme for Reading Research and Reading Resources"

Session: Thursday, April 22, 1971, 10:45
ERIC/CRIER - Information Analysis and Dissemination

One major goal of the total ERIC/CRIER program in dealing with reading research literature has been concerned with the development of a classification scheme for the materials in the ERIC/CRIER collection. The collection includes some 7,000 documents which have appeared in reading literature since about 1900. A great variety of types of documents are present, ranging from journal articles to dissertations to conference speeches to books.

For such a collection, some scheme of organization for retrieval and use is, of course, necessary and a scheme of classification was an early ERIC/CRIER project.

The original scheme of classification which was developed provided a broad subject category classification. The broad categories were devised by means of a collation of the tables of contents of ten years of the Annual Summary of Reading. The Summary provides a yearly comprehensive

RE003 710

view of reading research. By this process, 45 broad categories were devised and, in addition, a provision was made for also classifying documents according to school grade level.

The major use of the collection and of the classification scheme has been in the development of bibliographies. For example, ERIC/CRIER has produced a series of bibliographies dealing with topics in reading at the elementary level, as readiness, tastes and interest in reading, or comprehension in reading. The subject category scheme was used to provide the basis for these bibliographies.

The need for refining the classification scheme became particularly clear during the development of these bibliographies. The scheme provided large broad categories but did not define the categories. As a result, documents were incorrectly classified and both overclassification (incorrectly putting documents in categories) and underclassification (failing to put documents in all appropriate categories) occurred. The lack of definitions did not give classifiers or users a clear idea of what belonged in a given category.

The broad categories appeared to be inclusive of the area of reading but certain specific topics did not have a true location within the scheme. Topics, such as reading models, for example, were scattered across categories.

Subclassification was not a part of the scheme and, as a result, portions of a category were not readily obtainable. For example, the request of a user who wanted materials on the initial teaching alphabet would be met by producing the entire category on reading methods.

For these reasons, refinement or redevelopment of the scheme appeared necessary.

The New Scheme of Classification

Classification and thesaural schemes and theory already developed were first examined as a background for the development of a new scheme. From this, as well as a literature search and the advice of a panel of experts in classification, criteria for a scheme of classification for reading report literature were developed. These criteria served as a basis and foundation for the new scheme.

It was essential that the scheme first of all be inclusive of the area of reading. This has been accomplished by close examination of the ERIC/CRIER materials, the original scheme of classification, textbooks currently in use which deal with reading, and other classification sources which use reading as a main topic. Through this same procedure, enumerative detail great enough to provide for individual concepts, facts, and processes has been presented throughout the scheme. Additional suggestions to original listings have been gained by presenting the scheme to members of the ERIC/CRIER Advisory Board for critical review.

Twenty-seven classes have been developed. (See page 2 of the enclosed handout for class listing). Each class has then been broken down by the process of division and subdivision with a hierarchical format resulting. (See pages 3-4 of handout). The terminology used in the classes and in the subdivisions has been taken from the ERIC/CRIER collection itself and from available educational dictionaries. Synonyms and near synonyms have been presented where confusion might arise, scope notes and "See Also" terms have been given, and some definitions of terms have been provided for clarity. The additional task of defining all terms used in the scheme is planned.

The notation used throughout is Arabic numbers. Whole Arabic numbers designate major classes. Following the decimal point, the Arabic numbers designate levels within the class. The decimal numbers are not always continuous. (See page 3 of handout). Gaps have been left in the numbering for making additions to the scheme. The decimal numbers do not always maintain the same number of digits at a given level as they progress. Therefore, place value (tenths, hundredths, thousandths, etc.) does not indicate level of hierarchy. For example, in Class 13 (pages 3-4 of handout), there are twelve breakdowns at the first level in the hierarchy. These use the numbers 13.1 to 13.9 and include 13.1, 13.2, 13.3, 13.31, 13.4, 13.41, 13.5, 13.51, 13.6, 13.7, 13.8, and 13.9. If a strict decimal notation had been observed and if this level of the hierarchy could use only the tenth's place, the system would provide for this category only nine places rather than the twelve used and needed. The printed format of the scheme does indicate the hierarchy by its outline form. The numerical notation does not.

Extension, subdivision, and synthesis within classes is possible. Any portion of a class may be further broken down for the provision of greater detail. A new subdivision or subclass may be added at any point by choosing a number smaller than the section above and larger than the section below. For example, a subdivision may be placed between 1.12 and 1.13 by choosing a number, such as 1.121, which falls between the two.

Further categorization of documents is provided by the use of the faceting technique. Faceting refers to classification by characteristics of the documents. The scheme provides four auxiliary facets: grade level, source of material, type of material, and date of publication. (See page

5 of handout). These are used with all classes ad additional levels of classification. Whole Arabic numbers are used for each. The facets are separated from class numbers and from each other in notation by distinctive signs: + for grade level, = for source of material, * for type of material, and a pair of quotation marks for the date of publication.

Within some classes, a provision is made for class facets which provide a further division within the class. (See page 3 of handout). For example, in Class 13, four class facets are provided and documents could be given the additional classification of class facets. The notation for class facets includes a set of brackets with facet numbers inside.

The notation appears initially to be complex but knowing the meaning of the distinctive signs makes it readily understandable as well as making the scheme adaptable for computer maintenance. (A sample of a complete notation is presented and explained on page 6 of the handout).

An index has been developed using alphabetized key words from the scheme. These terms, printed with their class numbers, provide rapid access to the scheme and aid in the location of topics which may have been scattered throughout the scheme.

The ability of the scheme to be receptive to change and to new areas of development has been considered a major goal. Such changes are provided for in a variety of ways.

The twenty-seven classes presently have an alphabetical order and use the numbers 1-27 for notation. Any number of new classes may be added to the listing by continuing the numbering beginning with number 28. The alphabetical order would no longer exist but the utility of the scheme would not be hindered in any way. The index provides the primary

access to the scheme and it would not be affected by changes in class listing except that its size would increase.

The ability for changes within classes has been demonstrated. Gaps in numbering for additional topics is provided and the form of decimal notation used permits additions at any point within a class. Additions may also be made to the class facets and the auxiliary facets.

Testing of the scheme has been accomplished through the classification of document samples taken from the 1966-1970 document collection which had not previously been classified. Twenty-five documents were identified as an initial sample and 200 more were selected as a second sample. Additional revisions in the scheme as suggested by classifiers were made between samples. The samples were classified by document analysts who are graduate and doctoral students employed by the Clearinghouse. Comparisons of notation used by the classifiers were made. Comparisons were made by class numbers (major class used), actual class numbers, and auxiliary and class facets.

A standard of agreement among classifiers of at least 60 per cent (three of five classifiers) on at least one number was arbitrarily considered satisfactory as one way of making comparisons. Using this standard with the 200-document sample as an example, the agreement of major class numbers was 99 per cent. That is, at least three of the five classifiers agreed on at least one major class numbers in all but two of the 200 documents. In the same sample, the classifiers agreed 80 per cent (four of five) on 90 per cent (or 180) of the documents.

Comparisons of actual class numbers showed that 155 documents (or 77 per cent) met the standard. It should be noted that this figure is increased considerably if the use of related numbers is taken into account. Using a portion of Class 20 (Remedial Reading) as an example,

'related numbers may be demonstrated.

20.2 Programs for remedial instruction
20.22 reading centers and clinic programs
20.222 programs and services
20.224 staffing

One classifier might use 20.2 as the actual class number, a second might choose 20.22, and a third might select 20.224. Because of their varying choices of specificity, three different numbers are used although a related idea has been selected by each for classification.

Comparisons of auxiliary facets were similarly made. Grade level classification showed 94 per cent (or 185 documents) meeting the standard. Related numbers again should be considered. Some classifiers selected, for example, to use 21 (primary school) while others enumerated 211 (grade 1), 212 (grade two), and 213 (grade three).

Source of materials classification showed agreement of at least 80 per cent on 194 documents and total agreement using the standard. Type of research showed 98 per cent agreement (196 of the 200 documents) using the standard and, of these, 170 showed at least 80 per cent agreement. Year of publication showed complete agreement.

C. Jane Burton

The Development of a Classification Scheme for Reading Research and Reading Resources

Session: Thursday, April 22
10:45 a.m.
ERIC/CRIER

CLASSES

1. Audition (Hearing) and Auditory Discrimination
2. Comprehension - Literal
3. Critical and Interpretive Reading
4. Exceptional (Atypical) Learners
5. Foreign Countries
6. Instructional Materials
7. Language Arts (Excluding Reading and Children's Literature)
8. Language (Linguistics)
9. Learning
10. Libraries and Instructional Media Centers
11. Literature
12. Measurement and Evaluation of Reading
13. Methods and Programs of Teaching Reading
14. Oral Reading
15. Organization and Administration
16. Readiness
17. Reading: Definitions, Theories, and Models
18. Reading Disability
19. Reading Rate
20. Remedial Reading
21. Research: Methodology, Application, and Summaries
22. Study Skills and Content Reading
23. Tastes, Interests, and Preferences in Reading
24. Teachers
25. Vision and Visual Discrimination
26. Vocabulary (Reading Vocabulary)
27. Word Recognition

13. Methods and Programs of Teaching Reading (Not Remedial or Corrective)

Class facets: 1 descriptions of programs and methods,

2 materials,

3 research and evaluation,

4 comparisons of programs

13.1 History of methodology

13.2 Artificial orthography programs

13.21 DMS

13.23 ita

13.25 UNIFON

13.29 other

13.3 Basal reading

13.31 Individualized reading programs

13.4 Language experience programs

13.41 Linguistics and reading programs (SEE ALSO Linguistics Findings 8.3)

13.5 Phonics in reading programs (programs and not how to teach phonics generalizations)

13.51 Other programs

13.511 Alphabetic method (a synthetic method that begins with isolated letters, then letter combination, and finally whole words; Synonym: ABC method)

13.512 Computer assisted instruction

13.514 Programed instruction

13.518 Words in color

13.519 Other programs

13.6 High School reading programs

13.61 reading as a part of the literature or English program

13.62 special reading programs

13.7 College reading programs

13.71 four-year colleges

13.72 junior colleges

13.8 Adult reading programs

13.82 industrial programs

13.84 literacy programs

13.89 other

13.9 Evaluation of school reading programs

13.91 evaluation of program's objectives, personnel, students, materials

13.92 models, procedures, and techniques for evaluation

FACETS TO BE USED ACROSS ALL CATEGORIES

Age or grade level (category marked by +)

1 pre-school

11 nursery school

12 pre-kindergarten

13 kindergarten

14 pre-first grade

2 elementary school (grades 1-6)

21 primary school (grades 1-3)

211 grade 1

212 grade 2

213 grade 3

22 intermediate grades (grades 4-6)

224 grade 4

225 grade 5

226 grade 6

3 middle school (varies: grades 6-8 or other, to be used only when document specifically discusses "middle school")

4 nongraded or ungraded (to be used only when document specifically discusses the nongraded or ungraded school)

41 nongraded primary

42 nongraded intermediate

5 junior high school (grades 7-8, 7-8-9, or other)

6 high school (grades 9-12, 10-12, other)

7 college

71 junior college (as a two year program)

72 undergraduate (as a four year program)

73 graduate

8 adult education (not college)

81 adult basic education

82 adult continuing education

83 industrial programs

84 commercial programs

85 adults (not connected to education, as in military)

9 special education

95 general interest or across grade levels (no grade level specified)

Sources of materials (category marked by =)

1 journal article

2 book, as a textbook or professional book

3 conference paper or speech

4 dissertation (master's or doctoral)

5 research paper (as college, government or others)

6 pamphlet (as business, government brief publication or local system publication)

7 curriculum guide or teaching guide

Type of material (category marked by *)

1 historical research

2 survey research

3 longitudinal research

4 empirical research

5 summary or review of research

6 opinion of author (little or no research reported or references)

7 interpretive analysis (author interprets and integrates information)

Date of publication (category marked by " ")

Include year of publication between " " marks.

NOTATION EXPLAINED

A sample of a complete notation would appear:

13.5	[3]	+ 211	= 4	* 4	"1967"
class number	class facet	grade level	source of material	type of material	year of publication

Explanation:

13.5 Class number referring to Phonics in reading programs

[3] Class facet number meaning research and evaluation

+ 211 Grade level number meaning Grade 1

= 4 Source of material meaning dissertation

* 4 Type of material meaning empirical research

"1967" Year of publication

More than one number may appear in each part of the notation.

Class numbers are separated by colons and the other parts simply repeat their signs, as:

4.2 [3] : 16.1 + 13 + 9 = 4 * 4 "1967"